

Claims

- 5 1. A non-return valve comprising a hollow sealing piston  
(4) received in a valve housing (8) and biased  
against a valve seat (18) by means of a spring (16)  
in a basic position, so that in the basic position a  
10 pressure medium connection between two working ports  
(A, B) in the direction of flow therethrough is  
closed, characterized in that the sealing piston (4)  
is manufactured by a plastics injection molding  
technique.
- 15 2. The non-return valve in accordance with claim 1,  
characterized in that the sealing piston (4) is  
manufactured of the plastics material PEEK.
- 20 3. The non-return valve in accordance with claim 1 or 2,  
characterized in that the sealing piston (4) is  
reinforced by 30% of carbon fiber.
- 25 4. The non-return valve in accordance with any one of  
the preceding claims, characterized in that the  
sealing piston (4) includes a multiplicity of  
recesses (48) on the outer periphery (46), so that  
the sealing piston (4) is guided in the longitudinal  
bore (6) by axial webs (50) delimiting the recesses  
(46) from each other.
- 30 5. The non-return valve in accordance with any one of  
the preceding claims, characterized in that the  
sealing piston (4) includes a star configuration of  
bores (52), through the bores (54) of which pressure  
35 medium may flow into a spring chamber (20) in the  
opened position.

6. The non-return valve in accordance with claim 4 or 5, characterized in that six recesses (48) and four bores (54) are provided.
- 5 7. The non-return valve in accordance with claim 5 or 6, characterized in that guide projections (58) are formed between the bores (54).
- 10 8. The non-return valve in accordance with claim 7, characterized in that the guide projections (58) have a triangular shape and taper in the flow-receiving direction.
- 15 9. The non-return valve in accordance with claim 7 or 8, characterized in that the guide projections (58) each have an axial length approximately corresponding to the inner diameters of the bores (54).
- 20 10. The non-return valve in accordance with any one of the preceding claims, characterized in that the sealing piston (4) comprises a flow-receiving cone (56).
- 25 11. The non-return valve in accordance with claim 10, characterized in that the flow-receiving cone (56) has a rounded head (62).
- 30 12. The non-return valve in accordance with any one of the preceding claims, characterized in that the spring (16) is supported in the valve housing (8) by a spring cup (14) made of plastics.
- 35 13. The non-return valve in accordance with claim 12, characterized in that the spring cup (14) has at its outer periphery (42) and/or on its front side at least one sealing lip (36, 44).

14. The non-return valve in accordance with claim 13,  
characterized in that the radial sealing lips (36)  
are inclined against the direction of pressure build-  
up, and the front-side sealing lips (44) are inclined  
5 in the direction of pressure build-up.